STREAM SURVEY SUMMARY

103-60-31

STREAM BLACK BEAR CREEK

LOC. Big Salt Lake, Prince of Wales Island

MAP REF. Craig C-3 LAT. 55°37' N LONG. 132°57'40" W

TRIBUTARY TO Big Salt Lake MAIN DRAINAGE Black Bear Creek

ORIGIN Black Bear Lake LENGTH 6.5 miles WATERSHED AREA [illegible]

1. FLOW RANGE _____ cfs VELOCITY rapid to sluggish AVG. WIDTH lower 25 m. upper 25 m AVG. DEPTH lower 9" upper 3 ft.
FLOOD HEIGHT _____ COLOR/TURBIDITY Yellow brown / clear
Plane-boat to Big Salt Lake.

2. ACCESSIBILITY By road from Craig, Hollis, bridge crossing near mouth.

3. ACCESS STATUS South Tongass Nat'l Forest.

4. SECTION SURVEYED Lower 2 miles from mouth.
TRIBUTARIES Numerous small muskeg tributaries. One-half mile upstream on east bank a tributary 12' wide and 3" deep enters Black Bear Creek.

5. BOTTOM TYPE Lower 1/2 mi. - 50% rubble, 40% gravel, 10% sand w/few boulders. Next 1/2 mi. - 40% rubble (cont. next page) STREAM GRADIENT _____ %

6. POOLS - DESCRIPTION & FREQUENCY Lower mile has occasional pools, 3-4 ft. deep about as long as stream width with little shelter. Two such pools at first bend above bridge. One mile up a very large, deep (10 ft.) pool with luxurious vegetation extends 1/2 to 3/4 mile upstream.

7. BARRIERS None noted.

8. SPAWING AREA Excellent facilities in lower 1/2 mile, poor the next mile, then excellent above.

9. BANK COVER Lower mile partially shaded by hemlock-spruce, salmonberry, devils clubs a few gravel bars. Next 3/4 mile open, overhanging banks of (cont.)

10. WATERSHED TYPE Hemlock spruce coastal forest. Wide flat valley with some muskeg headed up by mountain drainage area.

11. FISH SPECIES Cutthroat, Dolly Varden, pink salmon, chum salmon, silver salmon, sculpin, stickleback, and reportedly steelhead.

12. FISHING HISTORY _____

13. FISHING INTENSITY _____

14. INVERTEBRATES _____
ABUNDANCE 2 surbers taken.

15. AQUATIC VEGETATION Diverse, abundant above 1/2 mile. Green & brown filamentous algae, mosses, eel grasses, equisetum, bladderworts, lily pads.

16. WATER USE None.

17. POLUTION None.

18. REMARKS Big Salt Lake should only be gone into by boat through the south entrance at slack high water. Consult locals. The large shallow tidal area at the head of the lake make it difficult to take a boat up near the mouth.

BY Short-Behr DATE August 6, 1973

FS-207 2-67

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF SPORT FISH

SUPPLEMENTAL DATA

NAME BLACK BEAR CREEK

LOCATION Big Salt Lake
Prince of Wales Island

A large rocky mud flat extends out 1/4 mile from the mouth of Black Bear Creek. Many types of algae and Zostera marina are present along with many Euphasids, sand dabs, starry flounder, Gangonid shrimp, and small sculpin. An interesting area.

WATER

Air °C 14.0
Water°C 12.0
pH 6.6
CO_2 < 5 mg/l
DO 12 mg/l

Overcast skies

Tot. alkalinity 1 grain/gal = 17.1 mg/l $CaCO_3$

Tot. hardness 1 grain/gal = 17.1 mg/l $CaCO_3$

MINNOW TRAPS 6 trap hours

Sculpin	Silver Salmon		Dolly Varden	3 Spine Stickleback
8.6	9.0	9.1	14.8	5.0
11.2	8.2	8.6	11.5	
11.2	8.4	7.8	9.3	
9.6	8.5	6.4		
8.4	7.4	8.6		
10.0	7.8	4.2		
11.0	8.9	9.1		
11.4	6.7	9.3		
9.1	6.8	7.6		
10.0	5.4			

Three cutthroat were picked up w/rod and reel.

$\bar{X}$ F.L. 34.5

Schools of pink and chum salmon were seen in most of the pools.

BY Short-Behr

DATE August 6, 1973

103-60-31

#111 TIMBERED AREA.

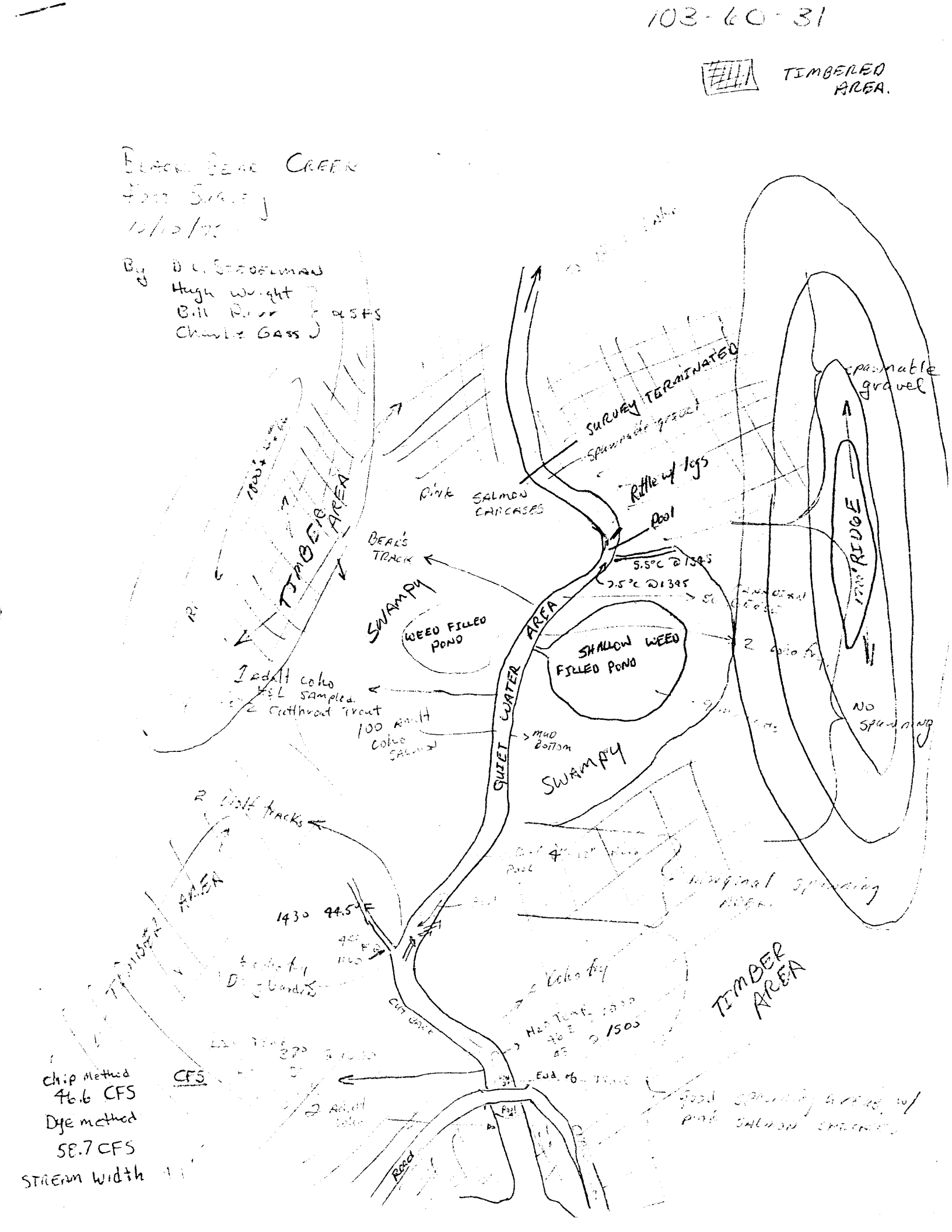

FIGURE 3

Black Bear Creek Lower Lake to Big Salt Lake.

R-1 STREAM CHANNEL STABILITY FIELD EVALUATION FORM

Item Rate:	Stability Indicators by Classes: EXCELLENT		GOOD		FAIR		POOR	
UPPER BANKS								
Landform Slope	Bank slope gradient <30%.	(2)	Bank slope gradient 30-40%.	(4)	Bank slope gradient 40-60%.	(6)	Bank slope gradient 60% +	(8)
Mass Wasting (Existing or Potential)	No evidence of past or potential for future mass wasting into channels.	(3)	Infrequent and/or very small. Mostly healed over. Low future potential.	(6)	Moderate frequency & size, with some raw spots eroded by water during high flows.	(9)	Frequent or large, causing sediment nearly yearlong OR imminent danger of same.	(12)
Debris Jam Potential (Floatable Objects)	Essentially absent from immediate channel area.	(2)	Present but mostly small twigs and limbs.	(4)	Present, volume and size are both increasing.	(6)	Moderate to heavy amounts, predominantly larger sizes.	(8)
Bank Protection from Vegetation	90% + plant density. Vigor and variety suggests a deep, dense root mass.	(3)	70-90% density. Fewer plant species or lower vigor suggests a less dense or deep root mass.	(6)	50-70% density. Lower vigor and still fewer species form a somewhat shallow and discontinuous root mass.	(9)	<50% density plus fewer species & less vigor indicate poor, discontinuous, and shallow root mass.	(12)
LOWER BANKS								
Channel Capacity	Ample for present plus some increases. Peak flows contained. W/D ratio <7.	(1)	Adequate. Overbank flows rare. Width to Depth (W/D) ratio 8-15.	(2)	Barely contains present peaks. Occasional overbank floods. W/D ratio 15-25.	(3)	Inadequate. Overbank flows common. W/D ratio >25.	(4)
Bank Rock Content	65% + with large, angular boulders 12" + numerous.	(2)	40 to 65%, mostly small boulders to cobble 6-12".	(4)	20 to 40%, with most in the 3-6" diameter class.	(6)	<20% rock fragments of gravel sizes, 1-3" or less.	(8)
Obstructions Flow Deflectors Sediment Traps	Rocks, old logs firmly embedded. Flow pattern of pool & riffles stable without cutting or deposition.	(2)	Some present, causing erosive cross currents and minor pool filling. Obstructions and deflectors newer and less firm.	(4)	Moderately frequent, moderately unstable obstructions & deflectors move with high water causing bank cutting and filling of pools.	(6)	Frequent obstructions and deflectors cause bank erosion yearlong. Sed. traps full, channel migration occurring.	(12)
Cutting	Little or none evident. Infrequent raw banks less than 6" high generally.	(4)	Some, intermittently at outcurves & constrictions. Raw banks may be up to 12".	(8)	Significant. Cuts 12"-24" high. Root mat overhangs and sloughing evident.	(12)	Almost continuous cuts, some over 24" high. Failure of overhangs frequent.	(16)
Deposition	Little or no enlargement of channel or point bars.	(4)	Some new increas in bar formation, most from coarse gravels.	(9)	Moderate deposition of new gravel & coarse sand on old and some new bars.	(12)	Extensive deposits of predominately fine particles. Accelerated bar developme	(16)
BOTTOM								
Rock Angularity	Sharp edges and corners, plane surfaces roughened.	(1)	Rounded corners & edges, surfaces smooth & flat.	(2)	Corners & edges well rounded in two dimensions.	(3)	Well rounded in all dimensions, surfaces smooth.	(4)
Brightness	Surfaces dull, darkened, or stained. Gen. not "bright".	(1)	Mostly dull but may have up to 35% bright surfaces.	(2)	Mixture, 50-50% dull and bright, ± 15%, ie 35-65%.	(3)	Predominately bright, 65% exposed or scoured surface	(4)
Consolidation or Particle Packing	Assorted sizes tightly packed and/or overlapping.	(2)	Moderately packed with some overlapping.	(4)	Mostly a loose assortment with no apparent overlap.	(6)	No packing evident. Loose assortment, easily moved.	(8)
Bottom Size Distribution & Percent Stable Materials	No change in sizes evident. Stable materials 80-100%.	(4)	Distribution shift slight. Stable materials 50-80%.	(8)	Moderate change in sizes. Stable materials 20-50%.	(12)	Marked distribution change. Stable materials 0-20%.	(16)
Scouring and Deposition	Less than 5% of the bottom affected by scouring and deposition.	(6)	5-30% affected. Scour at constrictions and where grades steepen. Some deposition in pools.	(12)	30-50% affected. Deposits & scour at obstructions, constrictions, and bends. Some filling of pools.	(18)	More than 50% of the bottom in a state of flux or change nearly yearlong.	(24)
Clinging Aquatic Vegetation (Moss & Algae)	Abundant. Growth largely moss like, dark green, perennial. In swift water too.	(1)	Common. Algal forms in low velocity & pool areas. Moss here too and swifter waters.	(2)	Present but spotty, mostly in backwater areas. Seasonal blooms make rocks slick.	(3)	Perennial types scarce or absent. Yellow-green, short term bloom may be present.	(4)
COLUMN TOTALS →	28		16		6		0	

Add the values in each column for a total reach score here. (E. 28 + G. 16 + F. 6 + P. 0 = 50).

Reach score of: (38=Excellent, 39-76=Good, 77-114=Fair, 115-=Poor

R1-2500-3

Reach Black Rock Jr. Lowndes to Big Salt Lake

Rating Sheet

Stream Feature	Imp. Factor		Rating		Score
1. Width	2	X	1.0	=	2.00
2. Flow	10	X	.60	=	10.22
3. Pool-riffle ratio	5	X	.4	=	2.00
4. Shade: Temp. Reg.	1.5	X	.3	=	0.45
Habitat	1.5	X	.3	=	0.45
5. Pool quality	5	X	.8	=	4.00
6. Riffle quality	5	X	.73	=	3.65
	30.0			TOTAL	25.55

30 Total

Score X miles = mile value

Rating System

Width: 0.1/ft. (max. 1.0)
Flow: 0.1/inch of riffle depth (max. 1.0)
Pool/riffle ratio: 0.8 - 1.0 if pool 35% : riffle 35%
0.4 - 0.7 if either pool or riffle > 35%
0.1 - 0.3 if both < 35%

Shade: 0.2 for each 20% of shaded stream surface

Pool quality: greater than average channel width.
0.9 = 2 ft. or deeper with abundant shelter
0.8 = 3 ft. or deeper exposed
0.7 = 2 ft. or deeper exposed
0.6 = < 2 ft. and abundant shelter
0.5 = < 2 ft. and intermediate shelter

Riffle quality

1. Bed material - 1.0 - 0.8 = gravel
0.7 - 0.5 = rubble .7
0.4 - 0.1 = bedrock
2. Water depth - 6" - 1.0
4"-6" = 0.8 1.0
2"-4" = 0.4
2" = 0.1
3. Water velocity - 1.5 - 3 ft./sec. = 1.0 - 0.6
0.5 - 1.4 ft./sec. = 0.5 - 0.2 .5
0.5 ft./sec. = 0.1
4. Total and divide by 3.